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Report to the Administrator, National Aeronautics and Space Administration

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November 1985

NASA'S FIA PROGRAM

ORIGINAL

NASA's Progress in Implementing Financial Integrity Act Requirements

GAO/NSIAD-86-3

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United States
General Accounting Office
Washington, D.C. 20548

National Security and International
Affairs Division

B-216946

November 19, 1985

The Honorable James M. Beggs
Administrator, National Aeronautics
and Space Administration

Dear Mr. Beggs:

This report concludes our review of National Aeronautics and Space Administration's (NASA's) continuing efforts to implement and comply with the Federal Managers' Financial Integrity Act (FIA) of 1982 [31 U.S.C. 3512 (b) and (c)]. Our review was part of a governmentwide assessment at 23 federal agencies. We performed these reviews as part of our continuing effort to enhance the federal government's ability to evaluate and improve internal controls and accounting systems. The objectives, scope, and methodology of our review are included in appendix I.

Section 2 of the act requires the heads of federal agencies to report annually on the status of internal accounting and administrative controls to the President and the Congress. This report must state whether controls fully comply with the act's requirements which are to establish controls in accordance with Comptroller General's standards and to provide reasonable assurance that (1) obligations and costs comply with law; (2) assets are safeguarded against waste, loss, unauthorized use, or misappropriation; and (3) revenues and expenditures are properly recorded and accounted for. To the extent systems do not comply, any material control weaknesses, along with plans and schedules for their correction, must also be reported. The Office of Management and Budget (OMB) issued internal control guidelines in December 1982 for agencies to use in evaluating and reporting on their internal controls. Section 4 of the act requires agencies to report annually on whether accounting systems conform to the principles, standards, and related requirements prescribed by the Comptroller General (hereinafter referred to as the Comptroller General's requirements).

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Significant Improvements Being Made to NASA's FIA Program

Since our last report,[1] NASA has continued to make progress in implementing its FIA program. NASA expanded its inventory of internal control systems by including program management processes and provided more guidance and direction to its managers. An effort was made at headquarters and some centers to orient managers on the requirements of the act and on the criticisms noted last year by NASA's Inspector General (IG), OMB, and our office.

In addition, NASA is developing annual internal control evaluation management plans for implementing FIA. The goal of this effort is to ensure NASA's internal control systems are assessed and reviewed to the degree necessary to provide reasonable assurance. Each center and headquarters develops a plan outlining activities, such as vulnerability assessments or internal control reviews, to be undertaken during the year and reports quarterly on its progress. Based on the progress reports, NASA will conduct evaluations to ensure the plans are properly implemented.

All of these improvements are getting more managers, including those at lower levels, involved in finding and fixing internal control problems before they become material weaknesses.

NASA's Basis for Determining the Status of Its Internal Controls Was Inadequate

On December 27, 1984, you reported that NASA's internal control systems were evaluated in accordance with the requirements of the act and, taken as a whole, provided reasonable assurance that the objectives of the act were achieved. The conclusion was based on a wide variety of evaluations which included vulnerability assessments, functional management reviews, internal control reviews, and audit reports, as well as assurances from NASA managers.

Despite the progress in implementing FIA and the many evaluations performed by NASA, we believe the basis was inadequate for determining that internal controls, taken as a whole, met the requirements of the act in fiscal year 1984. In deciding whether an agency has an adequate basis for determining that the requirements of the act have been met, we believe the agency head must consider the (1) significance of the weaknesses disclosed by the agency, (2) status of corrective actions, (3) comprehensiveness and quality of the internal control evaluation work performed, and (4) extent to which accounting systems conform with the Comptroller General's requirements.

[1] National Aeronautics and Space Administration's First-Year Implementation of the Federal Managers' Financial Integrity Act (GAO/NSIAD-84-100, May 1, 1984).

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We found NASA's FIA program deficient in several areas. First, the process of identifying internal control weaknesses to be disclosed to the President and the Congress, we believe, was questionable because some NASA centers were too selective in identifying weaknesses. Second, NASA's new follow-up procedures were not operational during fiscal year 1984. Finally, we believe the quality and scope of some internal control and accounting system evaluations were inadequate for determining that NASA's systems met the requirements of the act.

Process Used to Identify Internal Control Weaknesses Questionable

In 1983, NASA did not report any internal control weaknesses, even though many were identified by various internal review activities, which we believe could have been reported. In 1984, NASA identified and reported to the President and the Congress four areas in need of internal control improvement. NASA's description of these weaknesses and planned corrective actions are contained in appendix II.

Table 1.1 contains our brief description of these internal control weaknesses and their significance which were initially reported by the IG or by us and used by NASA for reporting weaknesses to the President and the Congress.

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Table 1.1: 1984 Internal Control Weaknesses

Internal Control Weaknesses	Significance of the Weaknesses
NASA's computer security program was deficient at some centers. For example, the IG reported that security requirements at one center were not defined, while at another center only 4 of 10 sensitive applications, such as payroll and personnel, had certified controls.	Computers at NASA are needed to manage research and development, operate the space shuttle, and administer such functions as payroll, property and personnel. At one center alone, there are over 100 computers. Inadequate controls could impair management's ability to accomplish NASA missions which depend on these systems.
NASA was not checking the backgrounds of federal and contractor employees who had access to sensitive computer systems as required by OMB and the Office of Personnel Management.	NASA is attempting to determine who has access to sensitive computer systems and to what extent a background check is needed. One center estimates that 12,000 individuals should be checked.
NASA's management of the space shuttle spare parts procurement and logistics support could be improved to reduce cost, increase economy and efficiency, and strengthen controls.	Through fiscal year 1994, NASA could spend $2.3 billion supporting the space shuttle. Problems reported by the IG include keeping unneeded spare parts which cost NASA $4.2 million, and obtaining parts from a private contractor at a higher cost rather than from federal supply centers or directly from suppliers.
NASA's internal control corrective action follow-up systems need to be improved to assure more timely resolution of problems by line managers.	NASA's FIA program and audits identify hundreds of problems which line managers need to resolve. Our review disclosed that some corrective actions may be unnecessarily delayed because managers did not resolve findings in a timely manner. (See app. III).

Although NASA reported weaknesses, the process used to identify them was questionable. Each center and NASA headquarters was required to submit their most significant internal control weaknesses for review by the Internal Control Working Group to determine what would be reported to the President and the Congress. In our opinion, two of the three NASA centers we evaluated were too selective in reporting weaknesses, which could have adversely affected the ability of the working group to identify systemic weaknesses in the preparation of the annual report.

We believe the Lewis Research Center was too selective in reporting its weaknesses. For example, a July 1984 equipment and supply functional review identified 31 findings—8 required corrective actions, the remaining 23 were suggestions for improvement. However, Lewis did not identify the eight findings requiring corrective actions, but did identify one of the suggested improvements. The Marshall Space Flight Center was also too selective in identifying weaknesses. For example, a September 1984 IG report on the Space Shuttle Main Engine program addressed problems with the entire logistics spares program and recommended 29

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improvements in such areas as requirements determination, procurement management, and control and accountability over inventories. Marshall only identified one specific problem with contract change orders for the working group's consideration.

In responding to a draft of this report, NASA said the centers did not consider many of the weaknesses identified in IG audits and functional management reviews to be significant. We are not contending that any one weakness identified by the IG or in functional management reviews is significant. We do, however, believe that when numerous problems exist within an internal control system, as was the case at the Lewis and Marshall Centers, they should be reported to the working group. The existence of numerous problems at the centers may indicate that weaknesses are systemic and/or material for the agency as a whole.

NASA also commented that internal control weaknesses may not have been identified by the centers because corrective actions were underway. We believe this reasoning is inconsistent with the requirements of the act which states that material weaknesses are to be reported, along with plans and schedules for their correction. Also, OMB's annual reporting instructions suggest that agencies report weaknesses which were identified and corrected during the year. Accordingly, agencies should identify known weaknesses even though corrective actions are underway.

In sum, we continue to believe that NASA's Internal Control Working Group would be better served if centers were not as selective in reporting internal control problems that are identified in functional management reviews and IG audits.

Internal Control Weaknesses Generally Corrected, but Follow Up Needed to Be Improved

We followed up on 129 weaknesses to determine if the corrective actions planned or completed were appropriate and timely. A summary of our analyses of selected weaknesses is contained in appendix III. Most of the weaknesses we reviewed were corrected or are being corrected. We are satisfied that the seven weaknesses identified by Lewis Research Center's internal control reviews in fiscal year 1984 were either corrected or were in process.

Last year, we reported that NASA did not have effective tracking and follow-up systems for corrective actions. The follow-up systems did not require timely resolution of problems resulting in NASA's systems being ineffective in some cases. Although NASA's implementing FIA guidance

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emphasized the importance of follow up, we found that little was done to change overall procedures during fiscal year 1984. Corrective action follow up is one of the four internal control weaknesses noted in NASA's 1984 report to the President and the Congress. NASA reported that improvement was required at the center level and at headquarters, in both functional and institutional program offices, to ensure follow-through on corrective actions. NASA planned to have appropriate follow-up systems in place by June 1985, and in commenting on a draft of this report, stated that this has been done.

Evaluations Need to Be Improved to Better Determine the Status of Internal Controls

We reviewed NASA's evaluation methods to determine if they were adequate for determining the status of internal controls. We examined functional management reviews, evaluations of automated data processing (ADP) controls, internal control reviews, and vulnerability assessments. Our analyses are contained in appendix IV and summarized below.

Functional Management Reviews

As we reported last year, the functional management reviews that we evaluated were generally an adequate evaluation of internal controls. Although procedures for functional reviews varied from system to system, the objective was to ensure that policies and procedures (including internal controls) were being followed. These reviews were performed by headquarters managers, generally every 2 years. A report was prepared on each review which identified findings and made recommendations for corrective actions. The functional reviews we evaluated were procurement, equipment and supply management, and financial management.

This year, our evaluation of other functional reviews from NASA's expanded inventory of internal control systems found that the quality of some of these evaluations needs to be improved before they will be an adequate basis for determining that NASA's internal control systems comply with the requirements of the act. For example, a facilities construction functional review had limited documentation to support its review methodology or results. In this particular review, a trip report was prepared to document the review results. The trip report did not discuss the status of internal controls or the controls, if any, that were evaluated. Without this information, we believe managers can not be

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assured the review adequately verified that key internal controls were working as intended.

ADP Application and General Control Evaluations

ADP internal controls are classified as either application controls or general controls. Application controls are measures that assure the accuracy and integrity of data origination, input, processing, or output for a particular ADP application; they are the responsibility of the ADP system users. General controls are the safeguards which pertain to a data processing installation (DPI), where computer operations take place. Such an installation may process numerous applications. ADP general controls are the responsibility of the installation's ADP managers.

Application controls have received little attention during NASA's internal control evaluations. We found, for example, that Marshall Space Flight Center's contract administration and procurement management internal control reviews did not identify or evaluate user ADP application controls, even though computers were used to compile management reports. We believe NASA's internal control evaluations would be improved if guidance was provided, specifying the application controls to be evaluated and the managers responsible for the evaluations.

Neither the DPI functional management reviews nor the risk analyses (see app. IV, p. 31), which evaluate general ADP controls, have been comprehensive. DPI reviews have not documented control objectives and techniques and have not included compliance testing of key control techniques. Generally, a review team makes an inspection, looking primarily at physical security and housekeeping. The team reviews some files and documents, with emphasis on acquisition and resource management. While NASA's ADP risk analyses reasonably identify and document control objectives and techniques, compliance testing to verify that controls are in place and working have not been done as part of the analyses.

Internal Control Reviews

Thirty-five internal control reviews were completed during 1984. Our analyses of 19 reviews, at three centers, indicate that they were not always adequate for determining that internal controls are operating as indicated. The reviews either did not properly identify the internal control systems being evaluated or did not properly identify control objectives and techniques. Seven of the 10 internal control reviews done at the Lewis Research Center only identified 1 internal control system, even though a center manual identified more. For example, the property

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accounting internal control review only evaluated one of the six different types of property accounting controls found in NASA's financial management manual. As a result, the determination on the overall status of internal controls was not adequately supported by the evaluation work performed.

Vulnerability Assessments

Over 850 vulnerability assessments were performed during 1984. No highly vulnerable areas were reported—which is consistent with the first round of assessments performed in 1982. We reviewed 131 assessments at three centers and at headquarters. NASA's assessment factors are similar to those in OMB's guidelines, but the process did not identify areas of highest risk. As a result, NASA managers, responsible for planning subsequent actions (e.g., internal control reviews), were unable to effectively use the assessments in determining the relative vulnerability among program and functional internal control systems.

In commenting on a draft of this report, NASA said that although assessments have not identified highly vulnerable areas, individual assessments do identify problems which need corrective actions. Further, NASA said it is continuing to emphasize the need to evaluate these problems and to initiate appropriate action which prevents them from becoming material.

NASA's Basis Inadequate for Reporting Accounting Systems Conformance

NASA reported in 1984 that evaluations of its accounting systems disclosed no material weaknesses; and that its accounting systems generally conform to the Comptroller General's requirements.[2] Although NASA has made some progress in implementing its program for evaluating its accounting systems and has taken action to strengthen accounting operations and correct problems, it does not have an adequate basis for reporting that its systems are in conformance with the Comptroller General's requirements. NASA did not evaluate 8 of the 20 systems in its accounting system inventory, and the 12 systems it did evaluate were not tested sufficiently to determine conformance. Appendix V discusses NASA's accounting system weaknesses and corrective actions taken.

[2]The GAO Policy and Procedures Manual for Guidance of Federal Agencies contains the principles, standards, and related requirements to be observed by federal agencies. Specifically, title 2 prescribes the overall accounting principles and standards, while titles 4, 5, 6, and 7 specify requirements governing claims; transportation; pay, leave and allowance; and fiscal procedures, respectively. Also, agency accounting systems must include internal controls that comply with the Comptroller General's internal control standards and related requirements such as Treasury Financial Manual and OMB circulars.

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NASA Improved Its Program for Evaluating Accounting Systems

NASA improved and expanded its accounting system evaluation program in 1984. It compiled an accounting system inventory of 20 accounting systems. Also, NASA fully documented two major accounting systems at the headquarters level—the Financial and Contractual Status System and the General Ledger Accounting System—and instructed center officials to develop, accumulate, and maintain documentation of center's accounting systems. In addition, NASA emphasized the importance of implementing section 4 of the FIA and designated individual responsibility at each center for evaluating center accounting systems. Another improvement was the expansion of NASA's financial management functional review process to include testing of systems in operation.

NASA's Evaluations Are Inadequate to Provide Assurance of Accounting Systems Conformance

Although NASA has improved its program for implementing section 4 of the act, its evaluations are not adequate to assure that its accounting systems conform to the Comptroller General's requirements.

NASA did not review 8 of the 20 systems included in its accounting system inventory during fiscal year 1984. However, it reported that its accounting systems were in general conformance with the Comptroller General's requirements. While NASA is not required to evaluate all systems in its inventory each year, it should not report a system in conformance with requirements if it has not been evaluated and properly tested during NASA's 2-year accounting system evaluation cycle.

NASA used a variety of methods to evaluate its remaining 12 accounting systems, including (1) financial management functional reviews, (2) an accounting principles and standards checklist, (3) the draft OMB accounting guidelines, and (4) IG payroll audits. Our review of the 12 evaluations indicated a lack of either adequate testing of the systems in operation or comprehensive coverage of internal controls, including those for ADP.

Additional Testing Needed in Evaluating Systems in Operation

We examined five financial management functional reviews and three accounting system evaluations NASA performed during 1984, and found that testing of systems in operation was inadequate.

Two of the five financial management functional reviews performed did not include such testing. Further, the three that included testing omitted certain critical aspects of the system, such as property accounting, and included tests which did not satisfy the objectives of system conformance tests.

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In addition to financial management functional reviews, NASA performed three specific accounting system evaluations. Two evaluations, conducted at the center level, used an accounting principles and standards checklist; and one center used the draft OMB accounting guidelines. Generally, these evaluations did not include testing of the system in operation to determine conformance; but rather, the systems were evaluated based on center financial managers' personal experience and knowledge of the system's design.

To determine whether a financial system conforms with the Comptroller General's requirements, it is necessary to review and test the system in operation. Although agency personnel may have extensive system knowledge, systems may operate differently than they believe. Therefore, testing should be done on all critical aspects of the system, and may include

- interviewing persons who operate the system,
- observing operating procedures,
- examining system documentation,
- applying control procedures to live transactions and comparing results,
- testing computer-based systems by use of simulated transactions, and
- reviewing error reports and evaluating error follow-up procedures.

Tests should be designed to disclose whether valid transactions are processed properly, and whether the system rejects invalid transactions. The tests should cover the entire transaction, from initial authorization through processing, posting to the accounts, and reporting. Accordingly, manual as well as automated operations should be included. In developing test plans, consideration should be given to the results of any prior system testing.

This criteria has been adopted by OMB and included in appendix H of its publication, Guidelines for Evaluating Financial Management/Accounting Systems (May 20, 1985). In determining the tests that would be appropriate for any system, it is important to keep in mind that in most cases, more than one of the above techniques are needed to test all key aspects of an accounting system. In commenting on a draft of this report, NASA stated that its accounting system testing was adequate. (See app. VI, p. 43.)

Another important aspect NASA needs to improve upon during its functional review process, is the examination of accounting system ADP controls. Currently, the review considers some general ADP controls dealing

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with organization and management, systems development, and computer operations. However, NASA does not determine the adequacy of ADP application controls over data input, processing, and output, and does not have a requirement for testing.

IG Payroll Audits Limited

NASA also used the results of three IG payroll system audits for its accounting conformance statement. Although these reviews included some testing of internal controls, audit reports indicated that some aspects of the system were not reviewed. For example, two of the payroll audits disclosed that assessments of the internal controls over certain payroll processing functions were excluded. While IG audits can be used by NASA officials to determine if systems conform with the Comptroller General's requirements, the officials should be aware of any exclusions in the scope of audits before using them as a basis for reporting.

Conclusions

NASA made several improvements to its section 2 FIA program during 1984, in response to criticism from OMB, IG, and our office. For example, the number of internal control systems subject to evaluation has been expanded to include program management processes. NASA also completed a second round of vulnerability assessments and conducted 35 internal control reviews. In addition, we believe that NASA's efforts to develop annual internal control evaluation management plans, if implemented properly, will improve its FIA program.

NASA also made progress in improving section 4 evaluations of its accounting systems by requiring some testing in its financial management functional reviews. Moreover, NASA headquarters compiled an accounting system inventory, improved documentation of some systems, and provided its centers additional guidance for evaluating systems. Further, NASA took action to correct several weaknesses identified by its systems' evaluations and from our review of NASA's implementation of the act in the first year, and plans are being developed to strengthen accounting operations throughout the agency.

Despite these improvements and the number of evaluations completed, we found NASA's basis in 1984 inadequate for determining that internal control systems, taken as a whole, met the requirements of the act and that accounting systems conformed with the Comptroller General's requirements. Because of the magnitude of NASA's programs, activities, and functions, it can be expected that differing opinions would exist on

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the adequacy of the basis for determining the status of its internal controls and accounting systems. Certainly this judgment is difficult to make. Although the basic framework for an effective program has been established, the following problems existed, which we believe need to be corrected before NASA will have an adequate basis for determining that the requirements of the act have been met.

- NASA's centers were too selective in identifying and disclosing internal control weaknesses.
- NASA did not have effective follow-up systems in place to assure internal control weaknesses were resolved in a timely manner.
- ADP internal controls were not evaluated in a comprehensive manner because NASA's guidance did not specify how to evaluate these controls for FIA purposes.
- Vulnerability assessments, though consistent with OMB guidelines, did not identify areas of highest risk.
- Reviews of internal controls did not always identify the systems or the controls properly and, as a result, the conclusions on the status of internal controls were not supported by the evaluations performed.
- NASA's evaluations of accounting systems were inadequate because either the systems were not tested in operation or were poorly tested.
- Accounting systems which had not been evaluated were reported in the annual statement as being in conformance with the Comptroller General's requirements.

Recommendations

We recommend that NASA's Administrator not report that systems of internal control, taken as a whole, meet the requirements of the act until the Administrator is assured that the FIA program provides an adequate basis to make such a determination. The Administrator should direct the Associate Administrator for Management to ensure that:

- NASA centers are reporting all important internal control weaknesses to the Internal Control Working Group, and
- NASA managers are provided sufficient guidance to allow them to comprehensively evaluate ADP internal controls.

We further recommend that NASA's Administrator limit the accounting systems conformance statement to only those systems which have been evaluated and properly tested in operation during NASA's 2-year accounting system evaluation cycle.

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In addition, we recommend that NASA's Administrator direct the Comptroller to ensure that transaction tests are performed on all critical aspects of accounting systems in operation, including ADP controls.

Agency Comments and Our Evaluation

In commenting on a draft of this report (see app. VI), NASA stated that the needed improvements we cited relating to (1) providing a better basis for determining that the requirements of the act have been met, (2) accounting system conformance reporting, and (3) accounting system transaction testing were either completed or nearing completion. NASA also noted that the IG has closed out its findings on the 1984 implementation efforts. As a result, NASA suggested we withdraw our recommendations.

We agree that NASA has continued to improve its FIA program. Many changes recommended by the IG and by us in earlier reports were in place during 1984. Other changes, such as improvements in follow-up systems, were not made until 1985. Although NASA is making changes to their FIA program, we believe our recommendations, as revised in this report and discussed below, are appropriate.

Improve the Basis for Determining the Status of Internal Controls

Our first recommendation in the draft report addressed the improvements NASA needed to make in its FIA program to provide a better basis for reporting that the requirements of the act have been met. We have changed this recommendation to note that the Administrator should assure that NASA's FIA program improvements are effective and eliminated other parts of the recommendation. Our evaluation of NASA's response to each of our recommended improvements follows.

Identify Material Weaknesses in a Forthright Manner

NASA objected to our draft report saying that NASA centers had not been "forthright" in identifying material weaknesses, and disagreed with us on the materiality of the identified weaknesses. We continue to believe the Internal Control Working Group, which is responsible for assimilating information from many sources throughout NASA, would be better served by more information from centers rather than less. Obviously, the process of identifying weaknesses is highly judgmental. We have revised our report by eliminating reference to the forthrightness of NASA

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centers. However, we believe two centers were too selective in identifying weaknesses for the Internal Control Working Group's consideration. We favor fuller disclosure of center internal control weaknesses.

Promptly Resolve Internal Control Weaknesses

NASA stated it now has an effective follow-up system in place. We agree that NASA has improved its follow-up procedures, but their effectiveness has to be demonstrated and monitored over time. One of the changes—annual internal control evaluation management plans—was only initiated in April 1985. We have dropped this specific recommendation.

Improve Vulnerability Assessment Process to Better Identify High Risk Areas

NASA stated that although its assessment process had not resulted in any highly vulnerable areas being identified, individual assessments do identify relative vulnerabilities which need corrective actions. NASA said it is continuing to upgrade its assessment processes by emphasizing the need to evaluate relative risks and initiate appropriate action to prevent problems from becoming material weaknesses. Any reasonable process which identifies areas of higher risk for further consideration and/or subsequent action is acceptable to us. Because NASA will upgrade its assessment process, we have dropped this specific recommendation.

Develop Guidance on Evaluating ADP Internal Controls

NASA stated that it will change some of its DPI review and risk analysis procedures and guidelines by specifically stating the internal control objectives being evaluated. However, it does not plan any changes to procedures for evaluating application controls because of the heterogenous nature of the thousands of applications it uses. NASA stated it relies on application managers to verify the adequacy of controls and that it knows of no instance where this policy has failed. We do not disagree with the policy of relying on application managers to evaluate ADP internal controls. However, as we said in this report, application controls received little attention in the internal control evaluations we reviewed. We believe the lack of attention paid by managers in evaluating ADP controls is the result of inadequate guidance. The guidance, available to managers in 1984, did not specify which controls to evaluate, who should do the evaluations, and the extent that controls should be tested. We believe that this type of guidance is needed.

Improve Reviews of Internal Controls

NASA stated that it is continuing to upgrade its reviews of internal controls through increased management attention by issuing more guidance and increasing quality control. This additional effort could alleviate the

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problems we found, particularly as NASA managers become increasingly familiar with the internal control review process. Accordingly, we have dropped this specific recommendation.

Limit Accounting System Conformance Reporting to Only Those Systems Which Were Evaluated and Tested in Operation

This recommendation suggested that the Administrator only report on accounting systems which were adequately tested during NASA's 2-year evaluation cycle. NASA said that its overall systems are continually tested to assure their timeliness and accuracy. In addition, center systems are tested to assure their compliance with agency accounting and reporting requirements. While NASA agrees more testing could be done, it believes any additional benefits derived would not justify additional costs.

Even though the amount of testing NASA performed in 1984 was increased from prior years, we believe accounting system evaluations conducted during NASA's 2-year evaluation cycle were not adequate to satisfy the objectives of a system's conformance test. Given the billions of dollars in NASA assets and funds that must be accounted for, appropriate tests of accounting transactions are warranted to determine conformance. Also, since NASA has not yet done the type of testing needed for accounting system conformance reporting, it does not yet have a basis to conclude that increased testing would not be cost beneficial. The more stringent testing requirements we discussed earlier in this report were adopted by OMB for its accounting system evaluation guidelines issued in May 1985.

Perform Transaction Tests of All Critical Aspects of an Accounting System, Including ADP Controls

This recommendation suggested that managers perform transaction type accounting system's tests as part of NASA's evaluation process. NASA said that it is not aware of any GAO guidance that specifically states that transaction testing is the sole basis for determining conformance with the Comptroller General's requirements. NASA believes the testing they perform is adequate to provide reasonable assurance that accounting systems are in conformance. They cite our internal control standards and OMB's internal control evaluation guidelines as justification for not having to do more testing. We are not arguing for a testing program which is too costly. But NASA's past accounting system evaluations were not adequate because (1) testing was not performed; (2) certain aspects of a system—such as property accounting—were not tested; or (3) evaluations were only based on the personal experience and knowledge of managers. As we stated above, OMB has adopted our more stringent testing criteria for its accounting system evaluation guidelines.

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In summary, the many changes made to NASA's FIA program are a significant improvement over its initial effort. Each year, however, NASA must consider the extent that its internal controls and accounting systems were evaluated, and the severity of the weaknesses disclosed and status of corrective actions, before a determination is made on the overall status of internal controls and accounting systems conformance. We do not believe NASA had an adequate basis in 1984 to determine the status of its internal controls or accounting systems' conformance.

As improvements which are already underway become effective, NASA will have a better basis to determine whether the requirements of the act have been met. Until such time, we believe that our recommendations as changed are appropriate and that NASA should continue to improve its evaluation program.

As you know, 31 U.S.C. §720 requires the head of a federal agency to submit a written statement on actions taken on our recommendations to the Senate Committee on Governmental Affairs and the House Committee on Government Operations not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the the agency's first request for appropriations made more than 60 days after the date of the report.

We are sending copies of this report to the Chairmen of the above Committees; the Chairmen of the House and Senate Committees on the Budget, House Committee on Science and Technology, and Senate Committee on Commerce, Science and Transportation; and to the Director, OMB.

Sincerely yours,

Frank C. Conahan

Frank C. Conahan
Director

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Abbreviations

ADP	automated data processing
DPI	data processing installation
FIA	Federal Managers' Financial Integrity Act
GAO	General Accounting Office
IG	Inspector General
OMB	Office of Management and Budget
NASA	National Aeronautics and Space Administration

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Objectives, Scope, and Methodology

The objectives of our review were to

- determine whether actions taken as a result of the act are improving internal controls and accounting systems,
- evaluate progress made by NASA in implementing its program for evaluating systems of internal control and accounting, and
- assess the adequacy of the basis for NASA's determining that the requirements of the act have been met and that accounting systems do or do not conform with the Comptroller General's requirements.

We obtained NASA management instructions and guidance for implementation of OMB guidelines from headquarters activities and Goddard Space Flight Center, Lewis Research Center, and Marshall Space Flight Center. The centers we visited were selected because they represent a cross section of NASA. We briefly visited NASA's other centers to discuss the FIA program with managers responsible for overall implementation, to determine what problems, if any, they were experiencing. We also obtained information issued to all centers by the Headquarters Financial Management Division for reviewing accounting systems conformance with the Comptroller General's principles, standards, and related requirements.

We examined in detail 131 vulnerability assessments performed at selected centers and headquarters and interviewed 85 individuals who prepared and/or reviewed the assessments to evaluate NASA's compliance with section 2 of the act. Our purpose was to determine their methodology and justification for deriving vulnerability assessment scores.

We also examined the adequacy of 19 of NASA's 35 internal control reviews and determined whether they were adequate for reporting on the status of internal controls.

In addition, we reviewed 129 weaknesses identified in NASA functional management reviews, internal controls reviews, and IG audits to determine if corrective actions were timely and appropriate.

We reviewed data processing installation reviews, risk analyses, and internal control reviews performed at selected centers and headquarters to assess NASA's evaluations of ADP internal controls. Our purpose was to determine whether NASA properly considered ADP application and general controls.

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We examined documentation of three accounting system evaluations performed in 1984 at Langley Research Center, Kennedy Space Center, and Marshall Space Flight Center to evaluate NASA's compliance with section 4 of the act. We also evaluated reports and supporting documentation for five financial management functional reviews performed at headquarters, Goddard Space Flight Center, Johnson Space Center, Marshall Space Flight Center, and the National Space Technology Laboratory.

In addition, we reviewed NASA's section 4 statement and NASA's basis for determining the status of its accounting systems and progress and problems in implementing its evaluation process. Further, we reviewed NASA's plans for correcting accounting system weaknesses identified during both last year's and this year's implementation of FIA. We also reviewed this year's annual assurance letter to the President and the Congress, and compared the reported weaknesses to those identified by various internal review activities.

We limited our review to NASA's FIA implementation and reporting process. We did not attempt to independently determine the status of NASA's internal controls or accounting systems conformance with the Comptroller General's requirements. Our audit work was conducted during the period May 1984 through April 1985, and was performed in accordance with generally accepted government auditing standards.

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Internal Control Weaknesses Reported by NASA[3]

Computer Security

There are several elements of the NASA Computer Security effort which contribute to the internal control of automated information systems and data processing facilities. Sensitive computer applications have been identified and the security of these applications is being evaluated. Risk analyses are being performed as necessary at data processing facilities. As a result of a review of our Internal Control Systems, we are developing documentation clarifying the computer security roles and responsibilities. Also, the GAO has initiated a review in executive agencies to evaluate the computer and telecommunications security and internal controls of major information systems. Agency actions will be completed by June 1985.

ADP Personnel Screening

In the area of ADP personnel screening, our review of assessments and discussions with the NASA IG indicate that the identification and screening of civil service and contractor employees who have access, in varying degrees, to sensitive computer applications is not always taking place in accordance with OMB Circular A-71, which requires that each agency establish and implement personnel security policies for screening all individuals who participate in the design, operation, or maintenance of computer systems, or who have access to computer data. All listings of civil service employees who hold sensitive ADP positions were not current, and contractor employees working in similar sensitive positions were not identified. The Office of Personnel Management has established criteria for categorizing such individuals based on the sensitivity of their positions. Additionally, it is NASA's policy to require all contractor personnel who are involved in computer activities to have, at least, a National Agency Check. Action is being taken to identify and screen all ADP employees, civil service and contractor, who are in sensitive ADP positions and ensure that required security checks appropriate for the position classification are conducted in a timely manner. This area will continue to be an item of special interest during the conduct of Inspector General audits and functional management reviews, as well as during the performance of vulnerability assessments and followed up to ensure appropriate action is taken and completed by June 1985.

Spares Procurement

In the area of spares procurement, the agency has recognized the advantages of increasing competition; that is, considering the procurement of spares directly from vendors as well as the prime contractors. Toward

[3]Appendix II, in its entirety, is taken from NASA's December 27, 1984, report to the President and the Congress.

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this objective, under the leadership of the Office of Procurement with participation from the Chief Engineer and appropriate Program Offices, a work group has been established to revise and clarify agency policy both in the areas of procurement and program management to ensure broader competition. The group will report their findings and recommendations by March 1985, and appropriate management action will be taken and followed up. The NASA IG office also requested that NASA management review its policy in this area.

Corrective Action Followup

A review of the range of evaluation activities, from vulnerability assessments to functional reviews and GAO/IG reports, indicates a need to improve the followup of recommended corrective actions. Improvement is required at the Center level to ensure focused oversight of all evaluation sources, and at Headquarters in both functional and Institutional Program Offices to ensure follow through on recommendations. After appropriate correspondence between the functional manager and the Center, and if appropriate action is not taken or otherwise satisfactorily resolved, such matters should be referred to the responsible Institutional Program Office. In this way, open issues are resolved by line management, that is, "Make appropriate changes; defer due to budget or staffing constraints but schedule for future action when feasible; or disregard due to low priority, negative cost-benefit considerations or documented impracticality."

Actions are now being taken to ensure that appropriate followup systems are in place; they will be reviewed by the Internal Controls office for adequacy. Actions are scheduled for completion by June 1985.

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GAO Analyses of Corrective Actions for Selected Weaknesses As of 12-31-84

Table III.1: NASA Headquarters

Weakness	Recommendation/Source	Corrective Action	GAO Comment
Cost Plus Award-Fee contracts were not administered properly or in a timely manner.	That action be taken to assess performance and to assure that recommendations, determinations by fee determination officials, and contract modifications authorizing payment of award-fee occur in a timely manner and in accordance with the terms of the contract. Source: Procurement Management Survey Report. 7/83	Contract officers/negotiators are working more closely with the program office to expedite the process. A responsible official believes time delays are inherent to the process and as a result it may not be corrected.	Corrective action is insufficient. The effects of the problem are known, but the causes have not been identified. The causes must first be identified, proper corrective action planned, and a milestone for completion of corrective action established. We were advised by NASA that a follow-up review found the corrective actions effective.
A listing of representatives authorized to certify to the availability of funds was not available to contracts and grants division personnel.	That the division Director obtain and disseminate an up-to-date list of Office of the Comptroller representatives authorized to certify to the availability of funds. Source: Procurement Management Survey Report. 7/83	List was obtained and disseminated to contracts and grants division personnel in April 1984.	Action was appropriate but not timely. The list was not provided until 9 months after the survey report. Follow-up procedures to assure the list is kept current should be developed. We were advised that NASA will update the list of certifying officers annually or more frequently due to personnel changes.
Procurement and contractor personnel were not in compliance with equipment visibility system (EVS) requirements. The system provides status information, such as equipment available for redistribution, which is needed for effective management.	Continue emphasizing EVS reporting and screening requirements to procurement personnel as well as to contractors. Source: Supply and Equipment Management Review Report. 9/83.	Emphasis on EVS requirements was done through informal talks and sending out buckslips to contractors. All contractors and negotiators were also reminded through standard division instructions which incorporated EVS requirements.	The action taken may not be appropriate for solving the problem, since this was a repeat finding from a 1981 review. The Contracts and Grants Division should establish a more formal and effective system for implementing the recommendation. NASA advised that a review performed in August 1985 found no deficiences in this area.
Many Headquarters property custodians were unaware of their equipment responsibilities.	Training in equipment management responsibilities must be provided to all headquarters property custodians. Source: Supply and Equipment Management Review Report. 9/83.	Training courses were conducted in July 1984 for all custodians; sixty-one of eighty-five attended. A makeup course was scheduled in January 1985.	The corrective action is an appropriate beginning for solving the problem. However, follow up is necessary to assure that the training is effective.

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Table III.2: Lewis Research Center

Weakness	Recommendation/Source	Corrective Action	GAO Comment
People monitoring construction projects are not completing a key accounting document (NASA Form 1046) to show whether costs should be capitalized or expensed.	Steps should be taken to ensure the receipt of a properly executed NASA Form 1046 from the NASA representative responsible for monitoring acquisition or improvement of real property. Source: Financial Management Property Accounting Internal Control Review. 12/83	The Chief, Financial Management Division sent a memo to the Chief, Facilities Engineering Division requesting that a completed NASA Form 1046 be submitted to the Real Property Officer within 30 days of a project's completion.	Corrective action was appropriate. Follow up showed that timely information is now being submitted.
Erroneous pay files are incomplete with respect to such actions as date of discovery, notice of overpayment, and notice of right to waiver.	The employees' files should be updated to include all the information revelant to erroneous pay. Proper procedures should be followed in notifying individuals in all cases when erroneous payment is discovered. Formal action should be taken to resolve pending requests for waiver on file in the Payroll Section. Source: Financial Management Claims for Overpayment Internal Control Review. 2/84	All the erroneous pay files were reviewed to ensure they were complete and actions taken to settle the pay errors.	Corrective action was appropriate. However, procedures should be reviewed, as necessary, to maintain control.
There were no procedures for assuring security requirements are incorporated in the ADP acquisition specifications.	Certification that appropriate security considerations have been considered and documented for ADP acquisitions also needs to be documented. To accomplish this OMB requirement, Lewis needs to develop clear procedures and assign responsibility to one individual. Source: IG Report-Security of Automated Information System-Lewis Research Center. 3/84	A Lewis Management Instruction was revised to hold the Procurement Officer responsible for procedures ensuring that security requirements are included in ADP specifications.	Corrective action was appropriate. The ADP Coordination Section is now including security requirements into ADP hardware and software purchases.
Lewis needs to verify the contractor-generated Equipment Visibility System information on contractor held property and strengthen its oversight.	Lewis should determine how to effectively accomplish a contract property management oversight function outlined in NASA PR supplement 3. In so doing, Lewis should consider exploiting the Property Management Information System. Source: Supply and Equipment Functional Management Review-Lewis Research Center. 7/84	Representatives from the Logistics Management Division and the Procurement Division were selected to review the duties and responsibilities of the oversight function and formulate plans to accomplish this function. They will consider implementing the Property Management Information System.	Corrective action is an appropriate beginning. However, until plans to accomplish this recommendation are developed, no further assessment is possible.

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Table III.3: Marshall Space Flight Center (MSFC)

Weakness	Recommendation/Source	Corrective Action	GAO Comment
MSFC's aircraft items were not being calibrated in a timely manner.	Management should attempt to identify and resolve problems with the calibration contractor. If no immediate resolution is possible, alternate sources, such as the equipment manufacturer, should be sought to assure timely calibration service. Source: Aircraft Operation Review Report. 08/82	A six-day turnaround time has been established for all calibrations including repair, unless replacement parts must be procured. Stock levels have also been reviewed to minimize part delays.	Corrective action appeared appropriate. We were advised by NASA that a functional review, performed in December 1984, confirmed that corrective actions were completed and found effective.
The performance and utilization of special purpose computer resources were not being monitored to ensure that the users were being properly served and that problems were identified and solved as quickly as possible.	Computer resource performance and utilization monitoring procedures for science and engineering's larger data processing installations (DPIs) should be reviewed to ensure proper resource allocation. Source: Data Processing Installation Review. 03/84	MSFC officials disagreed with the findings of the review. They believed that existing procedures effectively controlled the utilization of these computers. MSFC notified headquarters of their decision not to change procedures in August 1984.	The weakness was a repeat finding from 1982. Because the disagreements between MSFC managers and the functional review teams remained unresolved for over 2 years, we do not consider the resolution of the weakness timely.
Security for special purpose DPIs was inadequate. These DPIs were located in unlocked and frequently unmanned rooms.	A risk analysis of the science and engineering special-purpose DPIs should be performed as soon as possible to ensure that access controls are adequate. Source: Data Processing Installation Reviews. 08/82 and 03/84	In April 1984, MSFC developed a risk analysis questionnaire and a set of risk analysis procedures, in response to an Inspector General finding that related to the physical security of the special-purpose DPIs. The questionnaire results were summarized, and an action item plan was being performed. Corrective actions were scheduled to be completed by March 1, 1985.	Corrective Action appropriate but not timely since the weakness was a repeat finding from a 1982 review.
Locally approved ADP acquisition plans did not properly address software conversion studies and did not address the required alternative solutions.	MMI 2410.5 should be updated as soon as possible so that it will contain the proper requirements for ADP acquisition plan contents. Source: Data Processing Installation Review. 03/84	MMI 2410.5B was issued on October 25, 1984.	Corrective action was appropriate but not timely, since the weakness was a repeat finding from a 1982 review.

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Table III.4: Goddard Space Flight Center

Weakness	Recommendation/Source	Corrective Action	GAO Comment
Employee course evaluation portion of the training form is unsatisfactory for ADP entry into the Personnel Management System.	Create a new training request form. Source: Training Authorization Internal Control Review. 1983	New request form developed and in use.	Corrective action was appropriate and timely.
Computer tapes in the Science and Application Computer Center (SACC) need to be protected in case of fire.	Methods for reducing the inherent fire hazard from the SACC tape library should be considered. Source: Data Processing Installation Review. 1982	A fire resistant wall was installed between the tape library and the computers.	Although corrective action was taken, it was not timely. This weakness was reported in a 1979 Data Processing Installation Review.
The Ni-Cad battery shop has no hooded vent over the workbench, no posted safety precautions, no aprons or gloves, an out-of-date fire bottle, and non-flash proof lighting. Most serious is the lack of running water and emergency bath system nearby.	The battery shop should be brought up to standard as soon as possible. An eye wash system must be installed immediately. Source: 1984 Wallops Intercenter Review.	Installed an exhaust fan near the work bench instead of a hooded vent. Provided aprons and gloves, and installed an eye deluge and shower. A Wallops official stated that flash proof lighting was not necessary because nitrogen fumes are not present in the battery shop.	Even though some corrective action was taken it was incomplete. At the time of our review neither the exhaust fan nor the eye deluge would operate, and no safety precautions were posted.
The ends of the runways need to be graded and overlayed with asphalt to ensure proper aircraft overrun procedures.	A plan to stabilize all runway overruns should be incorporated into the long-range Intercenter Facilities Improvement Plan. Source: 1984 Wallops Intercenter Review.	This initative has been incorporated into the long-range facility plan.	Corrective action is appropriate. Funds to carry out this plan were included in the FY 85/86 Facility Construction budget request.

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Analyses of NASA's Internal Control Evaluation Methods

We reviewed some of NASA's evaluation methods to determine if they were an adequate basis for reporting that the requirements of the act have been met. The evaluation methods include functional management reviews, internal control reviews, vulnerability assessments, and reviews of ADP application and general controls. We used the OMB guidelines on internal control evaluations published in December 1982, as criteria for our analyses. In addition, we used our audit guide, Evaluating Internal Controls In Computer Based Systems, as criteria for our analyses of NASA's ADP reviews.

Functional Management Reviews

Last year, we reported that NASA already had procedures, known as functional management reviews, for periodically evaluating controls within its limited inventory of internal control systems. Although the three reviews we evaluated last year did not follow the OMB guidelines step by step, we concluded they met the intent of the act and were an adequate basis for reporting on internal controls.

This year, we did an analysis of several other functional management reviews from NASA's expanded inventory of internal control systems, to determine if these reviews were an adequate basis to determine the status of NASA's internal controls. We found some were adequate evaluations of selected internal controls. However, other functions in the expanded inventory of internal control systems were either not reviewed at all, or the reviews did not sufficiently document the evaluation of internal controls. For example, a functional review of transportation internal controls was not done. Although NASA officials tried several review approaches in the past, they believed that none were effective because the findings were of little value compared to the resources expended.

In a facilities construction functional review, we also found that limited documentation existed to support the review methodology or results. Although a project manager made a site visit to review the construction program of a center, and filed a trip report highlighting the status of the program and major issues, the trip report did not discuss the status of internal controls or the controls, if any, that were evaluated.

Because of the variance in the scope and quality of some functional management reviews, NASA managers should carefully consider the adequacy of each review before it is used as a basis for determining the status of internal controls.

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Evaluations of Automated Data Processing Internal Controls

NASA is highly dependent upon computers to carry out its mission and administrative functions. NASA's mission and many of its functions, such as personnel, payroll, and supply would be difficult to perform effectively without the aid of computers. Associated with the use of automation, are elements of risk which can increase chances for the occurrence of fraud, waste, and abuse. Internal controls can be used to identify and reduce these potential risks. It is therefore necessary to review and evaluate the functioning of ADP internal controls to ensure these risks are minimized. The various ADP internal controls evaluation processes which NASA uses are

- internal control reviews,
- DPI reviews,
- risk analyses, and
- IG audits.

We found that (1) the above evaluations, collectively, did not identify, document, and evaluate ADP users' application controls, (2) the DPI reviews did not document findings about the adequacy of existing ADP general controls, and (3) none of the ADP managers' evaluations compliance tested key ADP general control techniques.

ADP Users' Evaluations of Application Controls

The internal control reviews completed by NASA on functions which depend upon ADP support, generally did not evaluate user ADP application controls. These controls are concerned with

- data origination,
- data input,
- data processing, and
- data output.

The reviews of functions, which depend upon ADP support at the NASA centers we visited, generally did not consider ADP application control objectives and techniques. For example, a Marshall Space Flight Center review conducted on contract administration did not identify any ADP application controls in the function. However, documentation revealed that various computerized contract administration status reporting systems exist. Contract administration managers should have ADP application controls to reasonably assure that origination of data which goes to the computer department is accurate and authorized, and that computer output is reasonable. Because these controls were not identified, we can not be sure they were evaluated.

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In commenting on a draft of this report, NASA stated that the computerized procurement status reporting system was encompassed by the internal control review on procurement management. During our review, we also evaluated the ICR on procurement management and found that it did not identify or evaluate user ADP application controls.

ADP Managers' Evaluation of General Controls

ADP managers are responsible for evaluating and improving ADP general controls. General ADP controls have a direct effect on the quality of service rendered to ADP users and cover the processing of all ADP application systems.

ADP managers consider the DPI review as their primary means of internal control evaluations. They also rely on risk analyses and IG audits. The DPI reviews, however, do not adequately document findings about the adequacy of ADP control objectives and techniques to support a conclusion that controls meet the requirements of the act. Also, DPI reviews and risk analyses do not include compliance testing of key control techniques.

DPI Reviews Do Not Adequately Document Findings of Internal Control Adequacy or Perform Compliance Testing

During our review, we found that DPI review findings on ADP internal control adequacy are not well documented. Prior to the DPI review team's visit to a center's data processing installation, center managers fill out a questionnaire. The questionnaire addresses some of the ADP control objectives and techniques which we consider in evaluating agencies' ADP systems. During the on-site visit, the DPI review team receives briefings from center management and asks questions. The team makes a walk-through inspection, looking primarily at physical security and housekeeping. It reviews some files and documents, with emphasis on ADP acquisition and resources management. We found that, generally, documentation does not exist to show what ADP internal control evaluation work the team did, except for (1) the questionnaire (completed by the subjects of the evaluation), (2) briefing slides (prepared by the subjects of the evaluation), and (3) a 2 to 3 page report prepared by the review team. The reports briefly discuss the major deficiencies and reflect the reviewers' emphasis on ADP acquisition management, ADP resources management, and physical security.

One recent Marshall Space Flight Center DPI review report noted,

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"The data processing organization is very large and the three day review did not allow enough time to review all areas or aspects of the data processing installations. Therefore, the overall objective of this review was to obtain a general understanding of current hardware and software systems. The review also concentrated on factors related to DPI planning and operations effectiveness."

Based on our examination of NASA's DPI reviews, we believe that the above statement is an accurate characterization of the scope of DPI reviews as described. In our opinion, such reviews are not an adequate evaluation of ADP general controls.

In addition, DPI review teams do not perform the compliance testing, which we believe is necessary. For example, one generally recognized ADP general control objective is that a formal system acceptance process should be in place to provide reasonable assurance that systems are properly designed, developed, and tested before implementation. During selected DPI reviews, the teams have been briefed by center ADP management on their activities in this regard, and have asked some questions of center ADP managers. However, the DPI reviews we examined did not show documented test plans, test results, or test reports, nor did they verify that system acceptance was performed using data similar to, but independent of, program testing data.

Risk Analyses Do Not Include Compliance Testing

Another NASA evaluation process relative to ADP, is risk analyses. OMB Circular A-71, TM1, established the federal computer security program. The circular requires that a periodic risk analysis be performed on each computer installation. The thrust of a risk analysis is that risk should be controlled to an acceptable level; therefore, ADP installations should quantify the risk of loss and select cost-effective safeguards. We compared NASA's risk analyses to the control objectives and techniques in our audit guide, Evaluating Internal Control in Computer Based Systems. We concluded that NASA's risk analyses reasonably identify and document control objectives and techniques. However, NASA's risk analyses, conducted in accordance with A-71, do not require compliance testing, a precondition which we believe is essential for reporting on the overall status of internal controls under FIA.

In commenting on a draft of this report, NASA said compliance testing is an audit responsibility and not that of NASA's managers. We agree that if the audit staff does the evaluation, they are responsible. However, if

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managers do the evaluations, as in the case of NASA's functional management reviews and risk analyses, we believe the managers must perform the required compliance testing.

IG Audits Are Not Regularly Scheduled

NASA's IG conducted several audits of ADP security. Subsequent audits of ADP security will not be done on a regular basis; but rather, scheduled as the IG determines necessary after considering all audit requirements and priorities. Therefore, NASA may not be able to rely on IG audits as a basis for reporting on ADP internal controls. However, NASA management may request IG audits; and if conducted and scoped properly, they would be an adequate basis for reporting.

ADP Guidance Is Needed

On May 22, 1984, the NASA Associate Administrator for Management issued overall agency guidance on conducting vulnerability assessments. On June 22, 1984, the Acting Director of the Automated Information Systems Division, Office of Management, issued functional manager's guidance specific to the ADP assessable units. Neither of these guidelines specified which ADP internal control objectives and techniques need to be considered during vulnerability assessments. NASA instructions on conducting internal control reviews, likewise, did not specify what ADP internal control objectives and techniques to consider.

Our review showed that evaluations performed by ADP users do not adequately include application controls, and those performed by ADP managers do not include adequate documentation and compliance testing. We believe evaluation of ADP assessable units would improve if guidance specified which control objectives and techniques should be evaluated, who is responsible for performing each, and the extent these controls should be tested.

Internal Control Reviews

Internal control reviews are detailed examinations of functions or programs to determine whether their internal controls are effective. The OMB internal control review guidelines suggest a six-step review process.

NASA completed 35 internal control reviews in fiscal year 1984. The six-step review process was followed and the results documented, as noted in the OMB guidelines. We evaluated 19 reviews, which were done at three centers. Our analyses of these reviews revealed they were generally not adequate for determining that the requirements of the act are being met. They did not properly identify the event cycles associated

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with the internal control system being evaluated or the internal control objectives and techniques.

Event Cycles of Internal Control Systems Were Not Properly Identified

Internal controls systems can be broken down into processes called event cycles. These cycles are procedures that determine how a particular transaction or event is managed. For example, the personnel function begins with hiring and ends with termination or retirement. Typical cycles would include recruiting, hiring, assigning, promoting, evaluating, and maintaining records. Identifying event cycles is the first step in an internal control review and it determines which controls will be reviewed. Most of the internal control reviews we evaluated did not identify event cycles properly.

Seven of the 10 internal control reviews done at the Lewis Research Center only identified one event cycle for each internal control system, even though their manuals identified more. For example, one internal control review of property accounting identified only one event cycle "property accounting." NASA's financial management manual, on the other hand, identifies six different types of property accounting. We found a similar situation at the Marshall Space Flight Center. Six of the eight reviews we evaluated only identified one event cycle. The center, for example, identified one event cycle for contract administration. However, federal acquisition regulations describe 61 normal contract administration event cycles which could be performed by a contract administration office.

Control Objectives and Techniques Were Not Properly Identified

The other major problem was that control objectives and techniques were not properly identified. Control objectives are desired goals or conditions, while control techniques are steps taken by managers to help ensure control objectives are achieved. The internal control reviews at the Marshall Space Flight Center, for example, identified some objectives and techniques that either could not be distinguished from one another or were inappropriate for the internal control system being reviewed.

For example, we could not distinguish between the following objective and related techniques in a pricing internal control review.

- Objective

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Cost/price analysis is performed by a competent and professional staff, independent of the procuring functions.

- Techniques

Cost/price analysis is performed by a competent and professional staff.

Cost/price analysis is performed by a person independent of the direct procuring function. The cost/price analysis function is adequately staffed.

In an internal control review of the contract award function, we found some control objectives and techniques that related to the contract administration function, not contract award. For example, the following objective and technique was identified.

- Objective

Procurement and acquisitions are received and examined for acceptability.

- Technique

A receiving report is prepared on end items procured.

The difficulty in identifying and distinguishing between control objectives and techniques casts further doubt on the ability of internal control reviews to adequately evaluate the effectiveness of NASA's internal controls.

Vulnerability Assessments

Vulnerability assessments are an evaluation technique to determine the susceptibility of a program or function to the occurrence of waste, loss, unauthorized use, or misappropriation. They do not necessarily identify weaknesses in controls; but rather, determine the relative potential for loss among the programs and functions of an agency. The purpose of the vulnerability assessment process is to help managers effectively plan subsequent actions, such as audits or internal control reviews.

Over 850 assessments were done by NASA during 1984. No highly vulnerable areas were reported, which is consistent with the first round of assessments performed in 1982. We reviewed 131 assessments at three

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centers and headquarters and found that NASA's vulnerability assessment process followed OMB's guidelines. Managers, absent direction which requires them to distinguish relative levels of risk, can easily score their units as having low vulnerability and little can be done to refute their individual judgments. By consistently reporting low risk, NASA managers can not be sure that evaluation resources are being used to improve controls in the areas of highest risk. Also, NASA managers raise questions about the reliability of the vulnerability assessment process. For example, how is it possible that NASA's assessments found no highly vulnerable areas, but the agency reported four internal control weaknesses to the President and the Congress? If the vulnerability assessment process was effective, we believe the results would be consistent with the reported weaknesses.

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Corrective Actions Taken and Efforts to Improve Accounting Operations

NASA reported in 1984 that there were no material weaknesses in its accounting systems and, that with minor exceptions, its systems generally conform to the Comptroller General's requirements. However, NASA recognized the need to improve its financial management operations and has taken actions to correct problems previously identified by us; specifically, in the area of accounting control over equipment and supply and the accounting treatment of costs incurred by contractors in excess of obligations recorded in NASA's accounting records. Actions were also initiated to correct problems in billing customers for optional services performed on satellite launches, a minor weakness reported by NASA in 1984. NASA is planning to strengthen accounting operations by upgrading its financial system through integration and automation at the center level, and designing and implementing a standardized payroll system.

Corrective Actions Taken or Planned

NASA has begun taking actions to correct minor deficiencies disclosed through evaluations of its accounting systems. These plans include (1) improving the accounting control over equipment and supply, (2) emphasizing its current policy of not recording costs incurred by contractors in excess of obligations in accounting records at the centers, and (3) correcting the timeliness of billings problems for optional services performed on satellite launches. NASA also plans to improve financial management throughout the agency, including standardizing its payroll system.

NASA Has Improved Controls Over Equipment and Supply

A NASA 1983 headquarters equipment and supply functional review report disclosed problems in accounting for controlled equipment valued at nearly $28 million. The problems included failure to perform physical inventories and reconcile differences with accounting records. These problems were previously reported in a November 1981 functional review. Other financial management functional reviews performed at some center locations also revealed similar problems. The failure to perform physical inventories and reconcile differences between inventory and accounting records are nonconformances with the Comptroller General's requirements.

NASA issued a memorandum in January 1985 reemphasizing the importance of, and the requirement to perform physical inventories of property. Also, the NASA Comptroller has directed that once the inventories have been performed, the reconciliation statement will be co-signed by both equipment and supply and financial management personnel. In our

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opinion, the actions taken are positive steps to correcting the problems. NASA plans to monitor these actions, beginning with the equipment and supply functional review in July 1985.

Consistent Accounting Treatment of Costs in Excess of Obligations Emphasized

NASA's 1983 and 1984 accounting systems evaluations indicated its accounting treatment of costs incurred by contractors in excess of obligations recorded in NASA's records, was inconsistent at the center level. This problem was identified as early as May 1980 in a functional review at the Kennedy Space Center. NASA's accounting system reviews in 1983 disclosed that three centers were recording costs in excess of obligations. Accounting system evaluations performed in 1984 revealed that two centers have continued to record the costs in accounting records, contrary to NASA's policy. NASA officials told us that when centers record excess costs, generally, a contract modification is already in process to obligate additional funds to the contract, but the obligating actions have not been completed. By recording the costs in financial records before the additional funding is received from NASA headquarters, the records indicate that the centers involved have committed the government to the expenditure of funds beyond the amount of recorded obligations on the contract.

NASA believes it has adequate controls to limit its liability on the contract, as well as to ensure that it does not incur obligations exceeding appropriated amounts. These controls take the form of (1) a clause in the contract which states that NASA is not liable for costs incurred beyond the funds currently allotted to the contract and (2) a procedure requiring centers to report excess costs to headquarters monthly, rather than record the costs in the centers cost and liability accounts. In requiring the centers to report the costs to headquarters, NASA can ensure that appropriations are available before releasing additional funds to the centers.

We informed NASA last year, in our report on FIA implementation, that its accounting practices raised questions about the recognition of cost and the recording of obligations. Subsequent to our report, the NASA Comptroller recognized the inconsistent accounting application at the center level and directed the two centers to (1) discontinue recording costs in excess of obligations in accounting records and (2) follow the policy for reporting the costs to NASA headquarters.

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We believe the Comptroller's efforts to emphasize the policy should result in consistent accounting and reporting of costs in excess of obligations at all centers.

Policy Changed for Billing Optional Services Costs

During our review, we found that NASA did not prepare final bills to customers for optional services on satellite launches until almost 2 years after the launch date. For example, the first commercial satellite launch on the space shuttle was November 1982, and the final bill, which was due in May 1983, was not completed until August 1984. NASA officials attributed this problem to its inability to identify and accumulate actual costs of these services, by customer and flight, in a timely manner.

NASA negotiates agreements with various customers to launch satellites during space shuttle missions. A fixed price is charged for the basic satellite launch; however, there are other optional services associated with the launch that are provided on the customers' behalf, resulting in costs which are not covered by the fixed price. These optional services costs, for example, may include engineering analyses; data analyses; and software support, and testing of the satellite prior to launch. According to NASA, these services are performed concurrently on a number of different satellites that are to be launched on separate shuttle missions; thereby, making it difficult to render final bills to customers within its stated policy of 6 months after the launch date.

Although the need to provide more timely billings was recognized by NASA officials, a corrective action plan was not approved by the NASA Comptroller until October 1984. Consistent with NASA's current policy of charging customers a fixed price for the basic satellite launch, the NASA Comptroller has directed that optional services will also be provided on a fixed-price basis. In authorizing this change in procedure, the Comptroller also directed that

- the appropriate accounting techniques for recording costs of optional services be applied,
- a procedure be developed to ensure that all optional services are known at the time of launch and promptly reported to NASA headquarters so that final billing can be expedited, and
- a method of validating the fixed prices against actual experience be developed and reviewed periodically.

These actions, according to the NASA Comptroller, will be reviewed by the financial management functional review team to ensure that the

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implemented procedures will result in more timely billings. We believe that NASA's plan, if effectively implemented, will improve its timeliness of billings and help ensure that the fixed prices closely reflect the cost of performing the service.

Plans to Improve Accounting Systems

NASA is attempting to improve financial management throughout the agency by upgrading its accounting systems. NASA centers have a number of plans, in varying stages of implementation, to improve the integration and automation of center systems. For example, the National Space Technology Laboratory accounting system is generally operated manually. This laboratory has contracted for a completely automated system, scheduled for a phased implementation, beginning in fiscal year 1986. The Marshall Space Flight Center has plans for a system, scheduled to be operational in 1988 or 1989, which will eliminate or minimize the use of manual records and reports and provide a real-time data base. The Johnson Space Center is currently planning the redesign and automation of all its accounting systems.

NASA is considering a number of potential payroll systems in an attempt to select a system that would meet each center's needs, yet minimize the software, processing, and reporting differences. The system will control payments to over 21,000 employees, amounting to about $900 million annually. Currently, all centers have individual payroll systems, with the exception of the National Space Technology Laboratory which uses the NASA headquarters system.

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Advance Comments From NASA

Note: GAO comments supplementing those in the report text appear at the end of this appendix.

NASA

National Aeronautics and
Space Administration

Washington, D.C.
20546

Reply to Attn of: NIP

SEP 16 1985

Mr. Frank C. Conahan
Director
National Security and International
Affairs Division
U. S. General Accounting Office
Washington, DC 20548

Dear Mr. Conahan:

Thank you for the opportunity to comment on the General Accounting Office (GAO) draft report entitled "The National Aeronautics and Space Administration's Implementation of the Federal Managers' Financial Integrity Act."

Your acknowledgement of several specific improvements we have initiated during FY 1985 is especially appreciated. These and other progressive management efforts are why we believe NASA is often considered to be one of the best managed Federal agencies.

The report largely addresses conditions that existed nearly 18 months ago, and I am pleased to report that the few needed improvements that were cited have been either completed or are nearing completion. This is supported by the fact that the NASA Office of the Inspector General (OIG) has closed out all its findings on our 1984 Federal Managers' Financial Integrity Act (FMFIA) implementation effort. This success has been made possible through sustained NASA management attention and emphasis at all levels as well as the professional assistance and guidance provided by our OIG and your staff, particularly Mr. Phil Goulet.

The draft report contains three recommendations concerning followup systems, assessment processes and internal controls; the NASA accounting systems conformance statement; and, transaction testing of accounting systems. Our detailed comments are provided in the enclosure. Based on these comments, our 1985 management initiative in revising our approach for implementing FMFIA (as discussed in

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our April 3, 1985, letter to the Honorable Charles A. Bowsher), and our own OIG findings, we feel that these recommendations have been successfully overtaken by NASA management actions and should be withdrawn from your final report.

Sincerely,

C. Robert Nysmith

C. Robert Nysmith

Enclosure

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See comment 1.

NASA Comments on GAO Draft Report
The National Aeronautics and Space Administration's
Implementation of the Federal Managers' Financial Integrity Act

General: It is the NASA position that each of the following recommendations should be excluded from the final GAO report for the reasons indicated.

Recommendation 1:

"We recommend that NASA's Administrator not report that systems of internal control meet the requirements of the act until the following improvements are made to the FIA program to provide an adequate basis to make such a determination.

-- Managers identify and disclose material internal control weaknesses in a forthright manner."

Forthright is a subjective word open to interpretation. NASA places its trust in line management's personal and professional integrity to be responsible and accountable for internal controls and required corrective actions, and this is a basic principle of productivity improvement. Additionally, it is these same individuals who are responsible for operating the programs and functions of the Agency. Internal control weaknesses are identified by our managers and corrected at the lowest levels as part of their continuing management responsibilities, thereby preventing them, in most cases, from becoming significant.

During the current year increased management emphasis on the use of GAO/OIG audits and functional reviews in addition to vulnerability assessments and internal control reviews as the basis for weaknesses has been stressed at all levels. This has been accomplished through management guidance, an Internal Control Officer conference, a NASA Management Instruction on Internal Control Systems (ICS), and implementation of an ICS Management Plan approach. While GAO may disagree with the materiality or non-materiality of an identified weakness, the implication that our managers' effort was not forthright is clearly not supported by fact, and this recommendation should be withdrawn.

"--Internal control weaknesses are promptly resolved through the followup systems."

NASA now has an effective followup system in place. We have provided followup guidance in a published NASA Management Instruction on Internal Control Systems, and the followup effort is reported and evaluated quarterly in ICS Management Plan reports.

"--Vulnerability assessment processes better identify areas of higher risk to facilitate planning for internal control reviews or other actions."

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Vulnerability assessment scores are relative and even though the cumulative scores may not reach the high vulnerability range, they do display relative vulnerability. These relative vulnerabilities or "spikes" are identified and corrected at the lowest levels; therefore, they are prevented from becoming "material." We are continuing to upgrade this effort by emphasizing the need to evaluate "spike" scores and initiate appropriate action.

"--Guidance on how to identify and evaluate ADP internal controls is developed."

Because of the heterogenous nature of thousands of NASA applications, it is the general practice to depend upon the application manager to verify the adequacy of the control in each case. To date we know of no instance where this policy has failed, therefore, our reviews are considered adequate. Additionally, "control objectives" are inherent in the acquisition plan portion of our DPI review and in risk analysis processes; however, we will specifically state them as "Control Objectives" in the next revision to our procedures and guidelines for these areas.

"Reviews of internal controls are adequate for determining that they meet the requirements of the act."

We are continuing to upgrade this area through increased management attention. Several examples are additional ICS and functional review guidance, followup actions and quality control, and these efforts are considered adequate to satisfy current needs.

See comment 1.

Recommendation 2:

"We further recommend that you limit the accounting systems conformance statement to only those systems which have been evaluated and properly tested in operation."

We interpret this recommendation as suggesting future conformance statements to be qualified due to operational testing. NASA does test systems in operation. The Agency system, Financial and Contractual Status (FACS) and General Ledger Accounting System (GLAS) are continually tested to assure their timeliness and accuracy. Center systems are also tested in operation, and apparently sufficiently tested to assure their efficiency since they are in compliance with Agency accounting and reporting requirements. While additional testing can be implemented, we do not plan to install a testing program that would raise the level of our functional review process to that of an extensive audit program. The additional benefits that might be derived would not justify the costs incurred for the resources to support both an accounting operation and an audit staff.

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See comment 1.

Recommendation 3:

"In addition, we recommend that you direct the Comptroller to perform transaction tests of all critical aspects of the accounting system in operation, including ADP controls."

NASA is not aware of any GAO guidance specifically stating that either transaction testing or annual total systems evaluation is the sole basis for determining compliance with GAO accounting principles and standards. NASA's operational systems are reviewed on a cyclical basis through the financial management functional review process. All systems are tested and evaluated over a two-year cycle. Even though we do not evaluate each system annually, we do not concur that the systems are not in conformance with Comptroller General requirements. If a system has been evaluated during the review cycle and found to be in compliance with GAO standards and principles, we consider that system to be a part of the Agency certification even though it may not have been reviewed in the same year of each certification. On page 4 of the "Standards For Internal Controls In The Federal Government" published by GAO in 1983 it states, "The standard of reasonable assurance recognizes that the cost of internal control should not exceed the benefit derived. Reasonable assurance equates to a satisfactory level of confidence under given considerations of costs, benefits, and risks. The required determinations call for judgment to be exercised." Chapter VI of the OMB "Internal Control Guidelines" identifies the elements for the statement of assurance and that "The existence of these elements, collectively, provides strong evidence that management and other personnel, throughout the organization, are cognizant of the importance of internal control and that the necessary evaluation and improvement processes are taking place.

These are the two major conditions that support transmittal of the required statement." The above quotes are a clear indication that assurance is to be "reasonable," not complete. The above GAO recommendation borders on a requirement for absolute assurance each year. We are confident that NASA's assurance is in compliance with the above quoted guidance; therefore, this recommendation should be excluded from the report.

Specific:

Now on p. 4.

1. GAO Report, Page 4: "NASA's computer security program was deficient at some Centers. For example, the IG reported that security requirements at one Center were not defined, while at another Center, only 4 of 10 sensitive applications, such as payroll and personnel, had certified controls."

Now on p. 4.

2. GAO Report, Page 5: "NASA's management of the Space Shuttle spare parts procurement and logistics support could be improved to reduce cost, increase economy and efficiency, and strengthen the controls."

See comment 2.

Both of the above quotes are included in the report as paraphrase of NASA's 1984 reported material weaknesses. The quotes are out of context and contain factual errors. There was no mention in

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the 1984 report of undefined security systems or certified controls on 4 of 10 applications. Further, the NASA 1984 report did not mention spares logistics support as a material weakness; however, the GAO report paraphrase makes this implication. The GAO summaries of NASA's 1984 weaknesses should be deleted or rewriten to conform to the Agency's report.

Now on pp. 4-5.

3. GAO Report, Pages 5 and 6: "In our opinion, three NASA Centers did not respond in a forthright manner, which could have adversely affected the ability of the Internal Control Working Group to identify systemic weaknesses and the preparation of the annual report. For example, the Lewis Research Center, selected three weaknesses from IG audits and functional reviews. In a July 1984 equipment and supply functional reviews, 31 findings were identified, 8 required corrective action, the remaining 23 were suggestions for improvement. None of the eight findings requiring corrective action was reported, and only one of the suggested improvements was in the Lewis Research Center's report to Headquarters. The Marshall Space Flight Center responded in a similar manner. Only 1 of 29 findings published in a September 7, 1984, report on the Space Shuttle Main Engine program was submitted by the Center."

The cited IG report stated "A draft report was provided to MSFC on July 13, 1984, and a written response was received on August 27, 1984. The comments outlined positive measures and actions which were responsive to 27 of the 29 recommendations."

The IG report further stated that of the two remaining recommendations, one was not of major import; however, the IG suggested Center reconsideration since the implementation cost of the recommendation was minimal.

The one remaining recommendation concerned breakout of spares procurements. The Center agreed with the potential merit of the recommendation but believed that implementation should be delayed until design maturity had been achieved. The failure of MSFC to accept the IG recommendation for immediate implementation was not seen by that Center as evidence of a material weakness but rather a question of timing.

See comment 3.

To imply, as the GAO report does, that MSFC had 29 identified weaknesses in one IG report and only reported one weakness to Headquarters is simply incorrect. It does not follow that if IG, GAO, or any other audit/review organization makes recommendations, then there are weaknesses in the internal control system. In the 1984 Center Director's annual report to the Administrator, MSFC did report as a Center weakness, the lengthy time involved in definitizing contract change orders. This weakness was also mentioned in the cited IG report, and the Center has made significant progress in correcting this weakness. But, the Headquarters weakness--need for Agency spares procurement policy--was not seen, then or now, as a MSFC weakness, was not reported in 1984 as a weakness, and in retrospect, should not have been reported as a weakness.

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Although not specifically stated, the inference seems to be that these "systemic weaknesses" are in fact material weaknesses reportable under the FMFIA requirements. If a material weakness is as the OMB guidelines suggest, it seems arguable as to whether the eight required actions at LeRC are significant enough to constitute a material weakness. We seem to have evolved from a broad-based oversight of management systems to a detailed analysis in which the ICO is expected to surface every unresolved procedural shortcoming in the Agency, regardless of significance.

Now on p. 5, app. III, pp. 24-27.

See comment 4.

4. GAO Report, Page 6: "A summary of our analysis of selected weakneses is contained in Appendix III. Most of the weaknesses we reviewed were corrected or are being corrected." (Also, see page 27.)

Now on app. III, p. 26.

Not all of the four "GAO comments" in Appendix III, page 27, are factual. For example, the GAO comments concerning calibration of aircraft items states, "However, periodic followup to insure compliance is necessary." The implication is that MSFC had not followed up to insure timely calibration. In fact, a system was in effect in 1984 and prior whereby the dates of initiation and completion of calibration were recorded. The system was being monitored and reviewed on a quarterly basis by the manager of the Aircraft Operations. A functional review in December 1984 confirmed that the system was, and had been, functioning in a highly satisfactory manner.

We also disagree with the conclusion reached by GAO concerning MSFC's response to the "weakness" in monitoring the performance and utilization of special purpose computer resources. The Center stated its nonconcurrence with the Headquarters DPI report recommendation by letter to Code N, August 8, 1984.

The remaining two GAO comments concern the timeliness of MSFC's action. Whether response to recommendations is timely or not is frequently a matter of interpretation.

In summary, we believe that the implication that results from including these "weaknesses" is fallacious, the data are in some instances, not factual, and the entire appendix should be deleted.

Now on p. 7, app. IV, pp. 29-30

See comment 5.

5. GAO Report, Page 8: "We found, for example, that Marshall Space Flight Center's contract administration internal control review did not address the computerized aspects of the function ...." (Also, see pages 31 and 32.)

The computerized procurement status reporting system was encompased by the ICR on procurement management which was performed prior to the ICR on contract administration. Therefore, this area of review was not duplicated in the ICR on contract administration.

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Now on p. 6, app. IV, p. 28.

See comment 6.

6. GAO Report, Pages 7, 8 and 30: Comments are on NASA's Construction of Facilities Internal Controls. We cannot reply to these comments in the report since they are not clear enough for us to determine what "internal controls" or "review methodology" was not exercised by the NASA project managers. The GAO statements are ethereal and lack specifics; therefore, they should be excluded from the final report.

Now on p. 11.

See comment 7.

7. GAO Report, Page 14:

"IG payroll audits limited"

We suggest substitution of the following paragraph in place of the one in the GAO draft.

"NASA also used the results of three IG payroll systems audits for its accounting conformance statement. Although these reviews included some testing of internal controls the audit reports indicated that certain aspects of the systems were not reviewed. For example, assessments of internal controls over certain payroll processing functions were excluded. While IG reports can be used to aid NASA officials responsible for determining conformance with the Comptroller General's requirements, the officials should be aware of the exclusions in the scope of audits before using them as a basis for reporting."

Now on app. II, pp. 22-23.

See comment 8.

8. GAO Report, Page 23: With regard to the spares procurement issue, the NASA working group forwarded its report to the Administrator on April 11, 1985. The Administrator has tasked the Assistant Administrator for Procurement to direct a small task group in the implementation of the recommendations of the working group's effort.

Now on app. III, p. 24.

See comment 9.

9. GAO Report, Page 25: Noted three procurement related problems: untimely award fee determinations; outdated lists of fund certifying officers, and failure to do EVS screening. With respect to award fee contracts, a followup review has been conducted of the timeliness of contracting officer's determination of award fee. Over the last two years, determinations have been timely and modifications authorizing award fee payment have been made within 30 days of the determination. It is suggested that the corrective action in GAO's comment on page 25 of the draft be revised to reflect this comment. In addition it is suggested that the second sentence describing corrective action be deleted. Regarding fund certification, updates of the list of fund certifying officers are made annually or more frequently if needed due to major personnel changes in the Headquarters Accounting Branch. These followup procedures should be reflected in the GAO comment on page 28 of the draft. Formal Agency and Code HW regulations and policy statements on EVS screening are in existence, as they were at the time of the GAO review, and the most recent supply and equipment management survey of Code HW (August 12-16, 1985) revealed no deficiencies in this area. It is suggested that this status be substituted for the GAO draft comment on the subject.

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Now on p. 7, app. IV pp. 29-32.

10. GAO Report, Page 8/Appendix IV, Pages 31, 32 and 34:

Application Control

The "application control" procedures you recommend are infeasible as part of a DPI Review or Risk Analysis. NASA has thousands of applications and, because of the heterogenous nature of these applications, it is the general practice to depend upon the application manager to verify the adequacy of the control in each case. To date we know of no instance where this policy has failed.

See comment 10.

General Control

The "comprehensiveness of the DPI reviews and the risk analyses" is a matter of availability of resources-money and people. Considering the priorities on resources we believe the reviews and analyses are adequate.

"Control objectives" are inherent in the acquisition plan portion of our DPI review and in risk analysis processes. However, we will specifically state them as Control Objectives in the next revision to our procedures and guidelines for these areas.

"Control Techniques" are discretionary with the program manager. The responsibility in our Agency DPI and risk analysis processes is merely to ensure that the program managers have the necessary techniques to provide control.

See comment 11.

"Compliance testing" is not required by OMB Circular A-71. Also, we consider the OMB Internal Control Guidelines to be just that-guidelines-and not mandatory in every respect. Although we believe in the principle and it is part of any automation program, we believe it is an audit responsibility to verify compliance. We do not believe the risk warrants duplicating the audit staff to double check the compliance testing.

Now on app. IV, p. 32.

11. GAO Report, Page 35:

"IG audits are not regularly scheduled"

See comment 7.

The comments by GAO are not clearly descriptive of the IG audits or of the IG's future plans. The NASA IG conducted several audits of ADP security but the audits were not performed agency wide. It is also incorrect to say that the IG does not plan to repeat these audits on a periodic basis. Subsequent audits of ADP security will be scheduled as the IG determines necessary in considering all audit requirements and priorities.

Now on app. IV, p. 33.

12. GAO Report, Page 36: "Event cycles of internal control reviews were not properly identified."

GAO Report, Page 37: "Control objectives and techniques were not properly identified."

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Now on app. IV, p. 34.

GAO Report, Page 38: "The difficulty (by NASA) in identifying and distinguishing between control objectives and techniques casts further doubt on the ability of the internal control reviews to adequately evaluate the effectiveness of NASA's internal controls."

The thrust of the above extracts from the GAO report is to question the usefulness and adequacy of the internal control reviews by taking issue with the use of certain terms such as event cycles and internal control objectives and techniques. These terms are defined in the OMB Guidelines and in GAO Standards. We believe our use of terminology has been in consonance with these publications, and that the GAO interpretation in the draft report is not in conformance with documents published, in part, by their own office. Further, the suggestion that MSFC should have used 61 "event cycles" designated in the Federal Acquisition Regulation (FAR) in the internal control review performed at this Center on contract administration is a gross misinterpretation. The FAR lists 61 contract administration functions that may or may not be applicable to a Center's operation. In any event, these 61 functions are assuredly not "event cycles."

See comment 10.

In the final analysis, the important point is to insure that comprehensive review coverage was obtained. We believe that this was the case at MSFC, that the GAO report was in error throughout this section of the draft report, and that the reviews performed at MSFC did add to its ability to effectively evaluate internal controls.

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The following are our comments on NASA's letter dated September 16, 1985.

GAO Comments

1. Our reply to NASA's general comments about the draft report's recommendations are contained in the agency comments section of the report, pp. 13-16.

2. Report revised to make clear that the weaknesses are our elaboration on problem areas reported by NASA.

3. Report revised to clarify our point—that we believe two NASA centers were too selective in reporting control problems.

4. Report changed to reflect NASA's comments. However, the table still shows that some center actions were not timely.

5. Report revised to note that the procurement management ICR we examined also did not identify or evaluate user application controls.

6. Report not changed. We did not mean to suggest in our draft report that facilities construction internal controls were not working. Our criticism was that the review's documentation did not ensure managers that key controls were evaluated.

7. Report revised.

8. Report not changed. Information was a quote from NASA's 1984 report.

9. Report revised to note new NASA information.

10. We did not change our report. The important issue is that review coverage must be comprehensive. Until the scope and quality of reviews of internal controls are improved, we continue to believe some reviews will not be adequate for determining the overall status of NASA's internal control systems. They may, however, serve individual managers' purposes.

11. We disagree that compliance testing is only an audit responsibility. Testing is the responsibility of the reviewer. If managers perform the review, they are responsible for testing. See app. IV, p. 31.

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